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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEISUKE KII, MICHIO SATSUMA,
YOSHIHIRO UETANI, MUTSUKO YAMAGUCHI,
YUTAKA KISHII, SHUUHEI MURATA,
and TOMOAKI ICHIKAWA

Appeal 2010-002019
Application 10/698,438
Technology Center 1700

Before CHUNG K. PAK, CHARLES F. WARREN, and
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 2, 4, 6, 7, and 8.¹ Claims 3, 5, and 9 through 19, the other claims pending in the above-identified application, stand withdrawn from consideration by the Examiner. We have jurisdiction under 35 U.S.C. § 6.

¹ See Appeal Brief ("App. Br.") filed June 12, 2009, 4; and Examiner's Answer ("Ans.") filed August 14, 2009, 2.

STATEMENT OF THE CASE

Details of the appealed subject matter are recited in illustrative independent claim 1 reproduced from the Claims Appendix to the Appeal Brief as shown below:

1. A partially crosslinked adhesive-supported on a porous film for battery separator, consisting essentially of a porous film substrate having supported thereon a partially crosslinked adhesive that is partially crosslinked by preparing a reactive polymer having a functional group in the molecule and capable of being crosslinked upon reaction with a polyfunctional compound having reactivity with the functional group and then reacting the reactive polymer with a polyfunctional compound.

As evidence of unpatentability of the claimed subject matter, the Examiner relies on the following sole prior art reference at page 2 of the Answer:

Tomomoto	JP 10-183085	Jul. 7, 1998 ²
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Appellants seek review of the following grounds of rejection set forth by the Examiner at pages 3 and 4 of the Answer:

1. Claims 1, 2, 4, 6, and 8 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Tomomoto; and
2. Claim 7 under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Tomomoto (App. Br. 7).

² Appellants do not question the Examiner's reliance on the computer translation of record as the English translation of JP 10-183085 published on July 7, 1998. The Examiner refers to it as "Yomomoto" at page 2 of the Answer. However, the cover page of the Patent Abstracts of Japan refers it as "Tomomoto". As such, our reference to JP 10-183085 is to the computer translation of record which will be identified as "Tomomoto."

RELEVANT FACTUAL FINDINGS, PRINCIPLES OF LAW,
ISSUE, ANALYSIS, AND CONCLUSION

I. ANTICIPATION

Appellants do not dispute the Examiner's finding that Tomomoto discloses a partially crosslinked adhesive-supported on a porous film comprising a porous polymer film substrate, a tackifier, and a temperature resistant-partially crosslinked adhesive formed from reacting a polymer comprising monomers including carboxyl group containing acrylic acid having a glass transition temperature of -30°C with 0.01 to 0.5 wt% of a polyfunctional isocyanate crosslinking agent to avoid a gel fraction exceeding 50%. (*Compare* Ans. 3 and 5 *with* App. Br. 8-10 and Appellants' claims 1, 2, 4, 6, and 8.) The porous polymer film taught by Tomomoto, like the one described at page 5 of the Specification, can be made from polyethylene or polypropylene. (*See* para. 0052.) Although the preamble of claim 1 requires the structures and/or materials of the partially crosslinked adhesive-supported on a porous film be suitable for a battery separator having any shape or structure, Tomomoto, as discussed above, teaches such structures and materials, including the more specific structures and materials recited in dependent claims 2, 4, 6, and 8 and the more specific porous film, reactive polymer and polyfunctional crosslinking agent disclosed at pages 5 and 8 of the Specification. Indeed, Appellants have not identified any material and/or structure of the partially crosslinked adhesive-supported on a porous film suitable for any kind of a battery separator, which is

distinguishable over any of those taught by Tomomoto. (*See* App. Br. 8-11.)

Appellants contend that the transitional phrase “consisting essentially of” recited in claim 1 precludes the tackifier taught in Tomotmoto from being present in the claimed partially crosslinked adhesive-supported on a porous film for battery separator. (*See* App. Br. 8.) According to Appellants, the tackifier materially affects the basic and novel characteristics of the claimed invention. (*Id.*) In support of this position, Appellants submit a Rule 132 declaration executed by Shunsuke Noumi on August 7, 2008 to show the negative effect of the presence of 0.3% by weight of a tackifier in an electrolyte liquid used in a battery. (*Id.*)

Thus, the dispositive question is: Have Appellants shown reversible error in the Examiner’s determination that the transitional phrase “consisting essentially of” recited in claim 1 does not preclude the tackifier taught by Tomotmoto from being present in the claimed partially crosslinked adhesive-supported on a porous film for battery separator? On this record, we answer this question in the negative.

It is well settled that the transitional phrase “consisting essentially of” recited in a claim is interpreted as including not only those specifically claimed, but also those that do not materially affect the basic and novel characteristics of a claimed invention. *PPG Indus. V. Guardian Indus. Corp.*, 156 F.3d 1351, 1354 (Fed. Cir. 1998). Appellants have the burden of showing that the ingredients not specifically claimed, but taught in the applied prior art, would materially affect the basic and novel characteristics of a claimed

invention. *In re De Lajarte*, 337 F.2d 870, 874 (CCPA 1964). The ingredients that are not detrimental to the desired properties of a claimed invention are not construed as materially affecting the basic and novel characteristics of such claimed invention. *In re Herz*, 537 F.2d 549, 551-52 (CCPA 1976).

Here, Appellants have not identified any location in the Specification, which expressly or implicitly indicates that the tackifier taught by Tomomoto would materially affect the basic and novel characteristics of the claimed partially crosslinked adhesive-supported on a porous film for battery separator. Nor does the declaration relied upon by Appellants indicate that the tackifier taught by Tomomoto would materially affect the basic and novel characteristics of the claimed partially crosslinked adhesive-supported on a porous film for battery separator. The declaration only indicates that the presence of the tackifier taught by Tomomoto in an electrolyte liquid used in a battery is detrimental to the battery. It does not indicate that the tackifier taught by Tomomoto would be detrimental to the claimed partially crosslinked adhesive-supported on a porous film or that the use of the tackifier taught by Tomomoto in the claimed partially crosslinked adhesive-supported on a porous film as a battery separator would cause the tackifier to be dissolved in the electrolyte liquid. Thus, on this record, we are constrained to agree with the Examiner that the transitional phrase “consisting essentially of” recited in claim 1 does not preclude the presence of the tackifier taught by Tomomoto in the claimed partially crosslinked adhesive-supported on a porous film for battery separator.

Accordingly, we concur with the Examiner that Tomomoto renders the subject matter recited in claims 1, 2, 4, 6, and 8 anticipated within the meaning of 35 U.S.C. § 102(b).

II. OBVIOUSNESS

Appellants contend that one of ordinary skill in the art would not have been led to employ the claimed adhesive to porous film substrate coverage ratio of 5 to 95% (App. Br. 10-11).

Thus, the dispositive question is: Have Appellants shown reversible error in the Examiner's determination that one of ordinary skill in the art would have been led to employ the claimed adhesive to porous film substrate coverage ratio of 5 to 95% within the meaning of 35 U.S.C. §103(a)? On this record, we also answer this question in the negative.

As is apparent from pages 10 and 11 of the Appeal Brief, Appellants have not specifically disputed the Examiner's official notice at page 4 of the Answer that "reduced adhesive surface coverage is common and well known...." *See, e.g., In re Fox*, 471 F.2d 1405, 1407 (CCPA 1973) ; *In re Kunzmann*, 326 F.2d 424, 425 n.3 (CCPA 1964). Appellants' assertion at page 11 of the Appeal Brief that "with respect to the function of a battery, it is preferable that the supporting ratio of an adhesive is lower, but rather the contrary is preferable when adhesion to a battery is considered" does not indicate that a reduced adhesive surface coverage corresponding to that claimed is not common or not well known.

In addition, the function of an adhesive (promoting adhesion) is well known in the art as is apparent from paragraphs 0001 and 0003

of Tomomoto. In other words, the amount or coverage of the adhesive applied is a recognized result effective variable in a given application, for such amount or coverage is reasonably expected by one of ordinary skill in the art to affect desired adhesion and/or the cost of adhesive used as explained by the Examiner at page 4 of the Answer. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1368 (Fed. Cir. 2007); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980).

In view of either of the above teachings, we concur with the Examiner that one of ordinary skill in the art would have been led to employ the partially crosslinked adhesive to the porous film substrate in an optimum ratio, such as the coverage ratio of 5 to 95% recited in claim 7, with a reasonable expectation of successfully obtaining desired adhesion at a desired cost.

Accordingly, based on the reasons set forth in the Answer and above, we determine that the preponderance of evidence weighs most heavily in favor of obviousness of the subject matter recited in claim 7 within the meaning of 35 U.S.C. § 103(a).

ORDER

In view of the foregoing, it is

ORDERED that the decision of the Examiner to reject claims 1, 2, 4, 6, and 8 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Tomomoto is AFFIRMED;

FURTHER ORDERED the decision of the Examiner to reject claim 7 under 35 U.S.C. § 103(a) as unpatentable over the disclosures of Tomomoto is AFFIRMED; and

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FURTHER ORDERED that no time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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